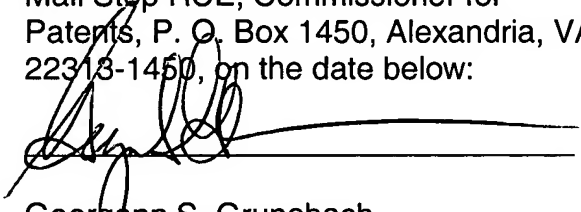




Patent
PD-203016
Customer No. 020991

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Mustafa Eroz et al. : I hereby certify that this correspondence is
: being deposited with the United States Postal
: Service with sufficient postage as first class
Serial No.: 10/613,823 : mail in an envelope addressed to:
Filed: July 3, 2003 :
: Mail Stop RCE, Commissioner for
For: METHOD AND SYSTEM FOR : Patents, P. O. Box 1450, Alexandria, VA
PROVIDING LOW DENSITY : 22313-1450, on the date below:
PARITY CHECK (LDPC) :
ENCODING :
: 
: Georgann S. Grunebach
: Typed or printed name of person signing certificate
Group Art Unit: 2133 :
Examiner: LAMARRE, Guy J. : Date: August 2, 2006

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97 (b)(4)

Mail Stop RCE
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The references cited on the enclosed form PTO/SB/08A may be relevant or material to the examination of the above-identified patent application and are, therefore, submitted in compliance with the duty of disclosure defined in 37 C.F.R. §1.56.

This statement should be considered because it is submitted before the mailing of a first Office action after the filing of a request for continued examination under §1.114 and therefore it is believed that no fee is due with this submission under 37 C.F.R. §1.97(b)(4).

If a fee is due, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 50-0383 of Hughes Electronics Corporation, El Segundo, California.

This Information Disclosure Statement is not to be construed as a representation that a search has recently been made, that additional information material to the examination of this application does not exist, or that this citation constitutes prior art.

Respectfully submitted,

By: 

Georgann S. Grunebach, Reg. No. 33,179

The DIRECTV Group, Inc.
RE/R11/A109
P. O. Box 956
El Segundo, CA 90245

Telephone No. (310) 964-4615

August 2, 2006

Substitute for form PTO/SB/08A

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

Complete if Known

Application Number	10/613,823
Filing Date	07-03-2003
First Named Inventor	Mustafa Eroz
Art Unit	2133
Examiner Name	LAMARRE, Guy J.

Date: August 2, 2006

Sheet 1 of 1	Attorney Docket Number	PD-203016
--------------	------------------------	-----------

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document Number Number-Kind Code	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
-----------------------	-------------	-------------------------------------	-----------------------------------	--	---

		US-2002/0002695	01-2002	Kschischang et al.	
		US-2002/0048329	04-2002	Tran et al.	
		US-2002/0101915	08-2002	Zhang et al.	
		US-2002/0136317	09-2002	Oelcer et al.	
		US-2002/0136318	09-2002	Gorokhov et al.	
		US-2002/0150167	10-2002	Demjanenko et al.	
		US-2002/0153938	10-2002	Baudelot et al.	
		US-2002/0188906	12-2002	Kurtas et al.	
		US-2003/0023917	01-2003	Richardson et al.	
		US-2003/0033575	02-2003	Richardson et al.	
		US-2003/0037298	02-2003	Eleftheriou et al.	
		US-2003/0058958	03-2003	Shokrollahi et al.	
		US-2003/0065989	04-2003	Yedida et al.	
		US-2003/0074626	04-2003	Coker et al.	
		US-2003/0079171	04-2003	Coe	
		US-2003/0079172	04-2003	Yamagishi et al.	
		US-2003/0081691	05-2003	Sutskover et al.	
		US-2003/0104788	06-2003	Kim, Sungwook	
		US-2003/0126551	07-2003	Mantha et al.	
		US-2003/0152158	08-2003	Torres et al.	
		US-2003/0179768	09-2003	Lusky et al.	
		US-2003/0223507	12-2003	De Gaudenzi et al.	
		US-2004/0034827	02-2004	Shen et al.	
		US-2004/0034828	02-2004	Hocevar	
		US-2004/0039983	02-2004	Brossier et al.	
		US-2004/0047433	03-2004	Mogre et al.	
		US-2004/0064779	04-2004	Vasic et al.	
		US-2004/0093554	05-2004	Hung	
		US-2005/0005231	01-2005	Sun et al.	
		US-2005/0063484	03-2005	Eroz et al.	
		US-5,099,484	03-1992	Smelser, Donald W.	
		US-6,075,408	06-2000	Kullstam et al.	
		US-6,097,703	08-2000	Larsen et al.	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form PTO/SB/08A INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Complete if Known	
	Application Number	10/613,823
	Filing Date	07-03-2003
	First Named Inventor	Mustafa Eroz
	Art Unit	2133
Date: August 2, 2006	Examiner Name	LAMARRE, Guy J.
Sheet 2 of 5	Attorney Docket Number	PD-203016

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number-Kind Code	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

		US-6,347,124	02-2002	Antia et al.	
		US-6,518,892	02-2003	Shen et al.	
		US-6,539,367	03-2003	Blanksby et al.	
		US-6,553,535	04-2003	Asada et al.	
		US-6,633,856	10-2003	Richardson et al.	
		US-6,662,337	12-2003	Brink, Stephan T.	
		US-6,665,361	12-2003	Christodoulides et al.	
		US-6,718,508	04-2004	Lodge et al.	
		US-6,895,546	05-2005	Eleftheriou et al.	
		US-6,938,196	08-2005	Richardson et al.	
		US-6,950,461	09-2005	Goldstein et al.	
		US-6,963,622	11-2005	Eroz et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Foreign Patent Document Country Code-Number-Kind Code	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		JP 7-50598	02-1995	NEC Corporation		
		JP 2002-094405	03-2002	Tsumura, Hideo (Sharp Corp)		

NON PATENT LITERATURE DOCUMENTS					T
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
		AL-RAWI, G. et al.; "Optimizing the Mapping of Low-Density Parity Check Codes on Parallel Decoding Architectures"; Proceedings, IEEE Conference on Information Technology: Coding and Computing"; pages 578-586; April 2-4 2001			
		BOUTILLON, EMMANUEL et al, "Decoder-First Code Design", 2 nd International Symposium on Turbo Codes & Related Topics", Brest, France, 2000, XP008011934			

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form PTO/SB/08A INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Complete if Known	
	Application Number	10/613,823
	Filing Date	07-03-2003
	First Named Inventor	Mustafa Erozu
	Art Unit	2133
	Examiner Name	LAMARRE, Guy J.
Date:	August 2, 2006	
Sheet 3 of 5	Attorney Docket Number	PD-203016

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number-Kind Code	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

NON PATENT LITERATURE DOCUMENTS					T
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
		BOUTROS, J. et al.; "Generalized Low Density (Tanner) Codes"; 1999 IEEE International Conference on Communications"; Vol. 1; June 6-10, 1999; pages 441-445			
		BRINK, S. et al.; "Iterative Demapping for QPSK Modulation"; Electronics Letters; IEE Stevenage; United Kingdom; Vol. 34, No. 15, July 23, 1998; pages 1459-1460			
		CHEN et al.; "High Throughput Overlapped Message Passing for Low Density Parity Check Codes"; GLSVLSI '03; April 28-29 2003			
		DUMAN, TOLGA M et al, "Performance Bounds for Turbo-Coded Modulation Systems", Transactions Papers, XP002263494, 1999 IEEE, pp. 511-521			
		ELEFThERIOU, E et al, "Low-Density Parity-Check Codes for Digital Subscriber Lines", IBM Research Zurich Research Laboratory, Switzerland, 2002 IEEE, pp. 1752-1757			
		ENGLING, YEO et al.; "VLSI Architectures for Iterative Decoders in Magnetic Recording Channels"; IEEE Transactions on Magnetics; Vol. 37, Issue 2; March 2001; pages 748-755			
		Flarion Technologies, Inc.; "Vector-LDPC Coding Solution Data Sheet"; www.flarion.com, 2004			
		FUTAKI, HISASHI et al, "Performance of Low-Density Parity-Check (LDPC) Coded OFDM Systems", Tokyo University of Science, Faculty of Science and Technology, Tokyo University of Science, Japan, 2000 IEEE, pp. 1696-1700			
		GALLAGHER, R.G.; "Low-Density Parity Check Codes"; IRE Transactions of Information Theory"; 1962; pages 21-28; XP-000992693			
		HAGENAUER, J. et al.; "Iterative Decoding of 6-8 Binary Block and Convolutional Codes"; IEEE Transactions on Information Theory; Vol. 47, No. 2; March 1996; pages 429-445			
		HAGENAUER, J. et al.; "Decoding and Equalization with Analog Non-Linear Networks"; European Transactions on Telecommunications; Eurel Publication; Milano, Italy; November 6, 1999; pages 659-680			
		LE GOFF, S.Y., "Channel Capacity of Bit-Interleaved Coded Modulation Schemes Using 8-ary Signal Constellations", Electronics Letters, February 14, 2002, Vol. 28, No. 4			

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form PTO/SB/08A		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Application Number	10/613,823
		Filing Date	07-03-2003
		First Named Inventor	Mustafa Erozu
		Art Unit	2133
		Examiner Name	LAMARRE, Guy J.
Date:	August 2, 2006		
Sheet 4 of 5		Attorney Docket Number	PD-203016

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number-Kind Code	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

NON PATENT LITERATURE DOCUMENTS					T
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
		LE GOFF; "Signal Constellations for Bit-Interleaved Coded Modulation"; IEEE Transactions on Information Theory"; Vol. 49, No. 1; January 2003; pages 307-313			
		LI, XIAODONG et al, "Bit-Interleaved Coded Modulation with Iterative Decoding Using Soft Feedback", Electronics Letters, May 14, 1998, Vol. 34, No. 10			
		LI, X. ET AL.; "Trellis-Coded Modulation with Bit Interleaving and Iterative Decoding"; IEEE Journal on Selected Areas in Communications; IEEE, Inc.; New York, U.S.; Vol. 17, No. 4; April 1999; pages 715-724; XP000824314			
		MACKAY, DAVID J.C.; "Good Error-Correcting Codes Based on Very Sparse Matrices"; IEEE Transaction on Information Theory; Vol. 45, No. 2; March 1999; pages 399-431; XP-002143042			
		MANSOUR et al.; "Low-Power VLSI Decoder Architectures for LDPC Codes", Proceedings, IEEE International Symposium on Lower Power Electronics and Design"; ISLPED '02; pages 284-289; August 12-14 2002			
		NARAYANAN, K.R. et al, "Bandwidth Efficiency Low Density Parity Check Coding Using Multi Level Coding and Iterative Multi-Stage Decoding", Texas A&M University, College Station, Texas, USA, 2 nd International Symposium on Turbo-Codes & Related Topics, Brest, France, 2000, XP009021988, pp. 165-168			
		NARAYANASWAMI, RAVI, "Coded Modulation with Low Density Parity Check Codes", Office of Graduate Studies of Texas A&M University, June 2001, XP-002271230			
		SCI-WORX GMBH; "FEC-S2 Next Generation FEC for Digital Video Broadcasting via Satellite"; www.sci-worx.com ; 2003			
		SELVARATHINAM, A. et al.; "A Massively Scaleable Decoder Architecture for Low-Density Parity-Check Codes"; Proceedings, IEEE International Symposium on Circuits and Systems"; Vol. 2; pages 61-64; May 25-28 2003			
		SIPSER et al.; "Expander Codes"; IEEE 1994; pages 566-576			

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form PTO/SB/08A INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Complete if Known	
	Application Number	10/613,823
	Filing Date	07-03-2003
	First Named Inventor	Mustafa Erozu
	Art Unit	2133
	Examiner Name	LAMARRE, Guy J.
Date:	August 2, 2006	
Sheet 5 of 5	Attorney Docket Number	PD-203016

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number-Kind Code	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T
		TULLBERG ET AL.; "Bit-Interleaved Coded Modulation for Delay-Constrained Mobile Communications Channels"; Proceedings IEEE Vehicular Technology Conference; VTC 2000; Tokyo, Japan; IEEE, Inc.; New York, U.S.; Vol. 3 of 3, Conf. 51, May 15-18 2000, pages 2212-2216; XP000968397			
		WADAYAMA, TADASHI, "A Coded Modulation Scheme Based on Low Density Parity Check Codes", IEICE Transactions on Fundamentals, U.S., October 2001, Vol. E84-A, pp. 2523-2527			
		WESEL et al.; "Constellation Labeling for Linear Encoders"; IEEE Transactions on Information Theory; Vol. 47, No. 6; September 2001; pages 2417-2431			
		ZHANG, TONG et al, "Joint Code and Decoder Design for Implementation-Oriented (3, k)-regular LDPC Codes", Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN, USA, 2001 IEEE, pp. 1232-1236			
		ZHANG, T et al, "High Performance, Low Complexity Decoding of Generalized Low Density Parity Check Codes, IEEE Global Telecommunications Conference, Vol. 1, November 25-29 2001, pp. 181-185			

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.